

EASy Quick Start

Your User Guide to

***P**elagic **H**abitat **A**nalysis **M**odule*

*Software for the Study and Management of
Pelagic Species*

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Using *PHAM* Quick Start

PHAM Quick Start is a simple, easy to use guide to get you started in *PHAM*. The detailed instructions, answers to frequently asked questions, examples, and common mishaps make it even easier to learn and use *PHAM*. In addition, there are links on each page to even more information for the advanced user!

Step-By-Step

1. Browse to Task's Sheet(s)
2. Follow the "Step-By-Step" Instructions
3. Read through the Frequently Asked Questions, FAQs section
5. Make sure to Avoid the Common Mishaps in the "Common Mistakes" section
6. Check out the *Reference Manual* cited below and in the "Step-By-Step" as (**Appendix Letter**)
7. Utilize the online references listed at the end of each Task's section

Where can I download the Reference Manual?

The Reference Manual can be downloaded on the website at [reference help](#).

What if the information in Quick Steps, Reference Manual, demo and example wasn't enough to solve my problem?

Please check the [user forum](#) first. If the problem is still not solved then email us through the [support page](#).



Common Mistakes

Skimming: Please read the Quick Start instructions carefully

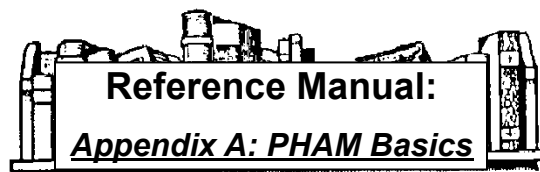
Doing without Understanding: When following the steps, if there is something you don't understand, please refer to the Reference Manual.



[User Forum:](http://www.phamlite.com/forum/) <http://www.phamlite.com/forum/>

[Support:](http://www.phamlite.com/contact.html) <http://www.phamlite.com/contact.html>

[Reference Help:](http://www.phamlite.com/tutorial.html) <http://www.phamlite.com/tutorial.html>

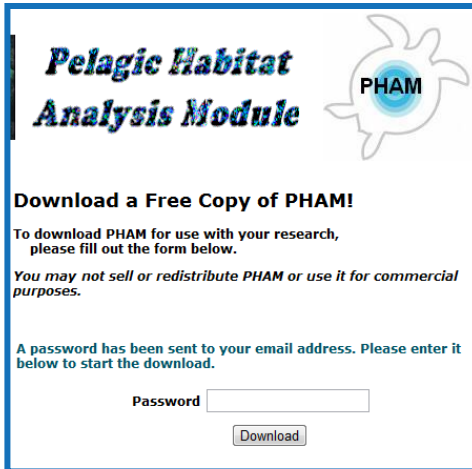


Installing PHAM

PHAM provides researchers with the tools to examine data in a 4 dimensional context – latitudinal, longitudinal, vertical, and temporal (**A**). This unique GIS contains an interface for satellite imagery products from NASA and others. PHAM runs on Windows Operating Systems.

Step-By-Step

1. Go to [PHAM Download](#) Site
2. Check that your computer meets the requirements specified in the box to the right.
3. Register as a user with a valid email and affiliation and click Submit. This should result in the screen below:



The screenshot shows the 'Pelagic Habitat Analysis Module' download page. It includes a logo for PHAM, a heading 'Download a Free Copy of PHAM!', and instructions to fill out a form. A password field and a 'Download' button are visible at the bottom.

Pelagic Habitat Analysis Module

PHAM

Download a Free Copy of PHAM!

To download PHAM for use with your research, please fill out the form below.

You may not sell or redistribute PHAM or use it for commercial purposes.

A password has been sent to your email address. Please enter it below to start the download.

Password

System Specifications:

- Pentium PC running at 100 Mhz (minimum)
- 500 MB available disk space (minimum)
- 64 MB RAM (minimum)
- Windows NT 4.0 operating system
- Microsoft ACCESS

4. A temporary password will be sent to your email. Copy and paste this password into the 'Password' box and click 'Download'
5. Change the temporary password to the password of your choice by clicking the 'Change Password' button.
6. Click on PHAM Lite Program Link and follow the instructions.
7. Optional: Return to the website and click on the PHAM Lite Demo link to download the demo.



PHAM Download:

<http://www.phamlite.com/download.php>



Creating a New Project

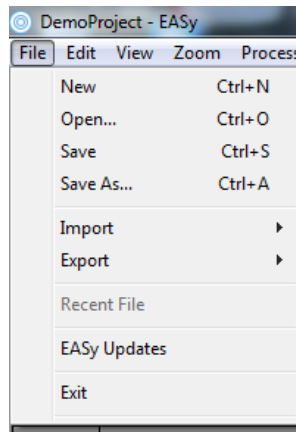
Whenever you start a new study, you will want to start a new project as well. By creating a new project, your work is kept organized with a new subdirectory complete with a separate database designated to your next study. The folder and database created will have the same name that you give your project.

Step-By-Step

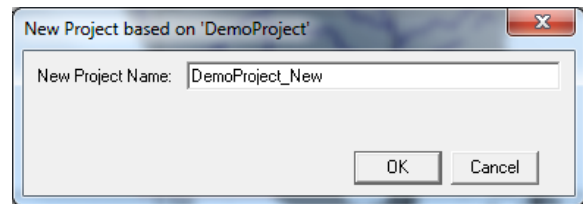
1. Double click the PHAM icon located on your desktop to Start up PHAM.



2. Choose **File-New (A)**



3. Type in the name of your new project and click Ok.



FAQs

Can I keep imagery from a previous project?

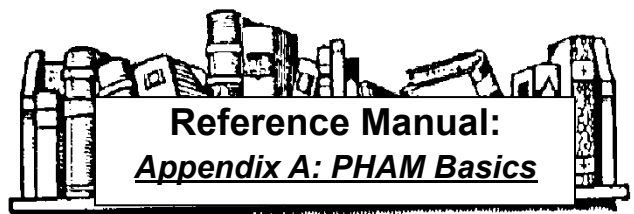
Yes. If you would like to use the imagery from a previous project, do not create a new project, but rather go to File-Save As and check the box next to 'Clear Measurements'.

Can I use symbols in the project name?

You can use any symbol except a period.

Common Mistakes

Unoriginal Project Naming: Using the same name as an older project will result in the loss of the older project

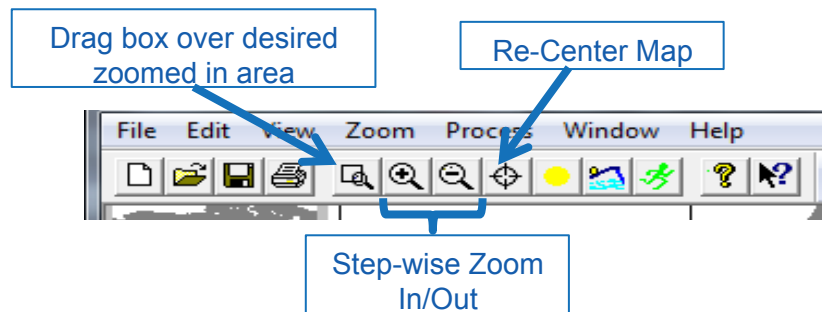


Editing Map Display

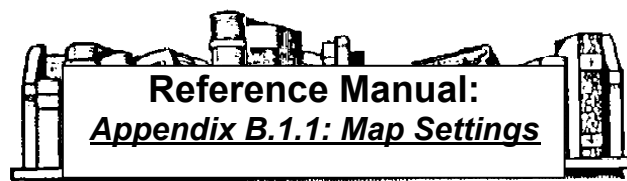
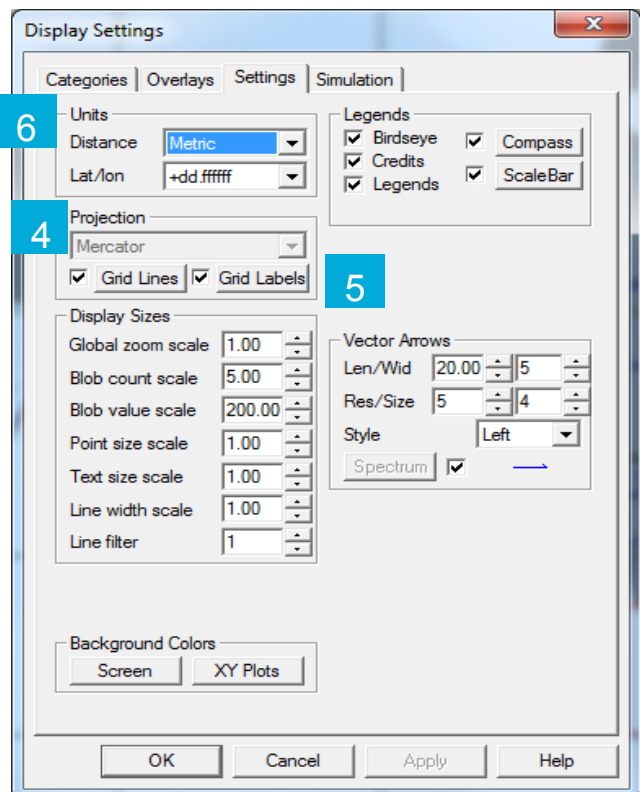
The following steps guide you through changing the zoom, projection, grid lines, grid labels, and the units of the map. *PHAM* has options to change the **extents** of the map as well as the **grid lines**, and **projection type**..

Step-By-Step

1. Changing the screen extents or map center, use the buttons on the main toolbar (**E.1**).



2. To change any other map options go to *View* in the main menu. Then click on *Display Settings*.
3. Once in Display Settings, click on the *Settings* tab.
4. To change the projection, choose the projection type from the *Projection* drop down menu
5. To turn grid lines/labels on or off, check or uncheck the box next to *Grid Lines* or *Grid Labels*
6. To change the units of the map, click select from the *Distance* drop down menu and the *Lat/lon* drop down menu.

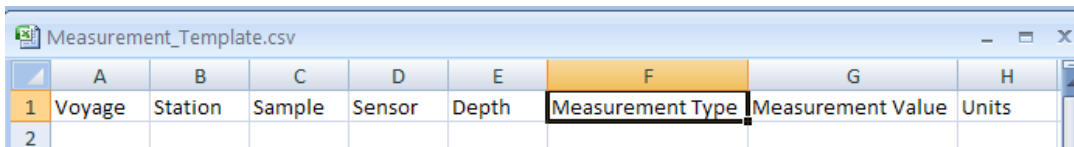


Importing Data

PHAM is equipped with an easy to use database wizard that imports your data and stores it in the project database. Following the steps is very simple, but make sure you look at the appendix on this one! Understanding the data fields is essential to analyzing your data properly in *PHAM*.

Step-By-Step

1. Create a file with the following format and columns and transfer your data into the appropriate columns (C). Necessary data fields include: Latitude, Longitude, and date/time fields. Order is not important, but the column headers should all be present and these headers must be in the format shown below..

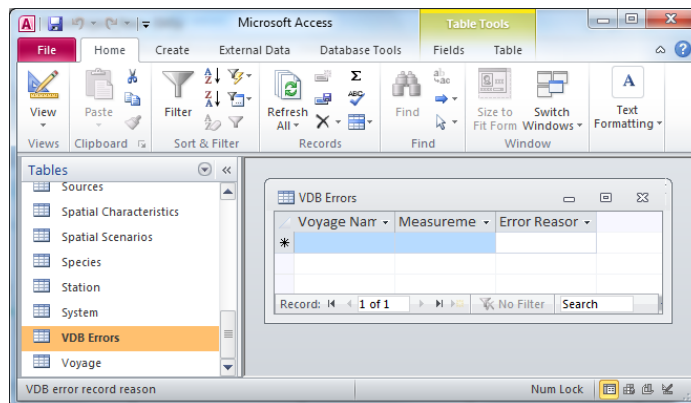


	A	B	C	D	E	F	G	H
1	Voyage	Station	Sample	Sensor	Depth	Measurement Type	Measurement Value	Units
2								

2. Back in PHAM, choose **File-Import- Measurements-Database Wizard**
3. Click on 'Source File'. Browse to and select your data file. Then click 'Process'.

If not all your data were imported successfully....

- Choose **Edit-Project Database**.
- Select the **VDB Errors** table from the side panel. Scroll to the **Error Reason** column to see why your data were not imported.
- Fix errors in data file
- Repeat Steps 2-3.



NEXT...

Importing Data -Continued



Can I leave any data columns blank?

Station, sample, and voyage can all be left blank. PHAM will assign unique identifiers for these columns.

What type of characters does each field accept?

Voyage, Station, Sample, Units and Measurement Type can accept text and characters; while all the other fields must be numerical. For further help with this please refer to Appendix C for examples.

Common Mistakes

Duplicate Records: PHAM will not accept 2 records where the voyage, sensor, date, location, depth, measurement type, and measurement value are all the same

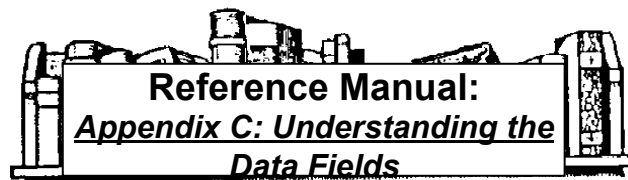
Invalid Dates: PHAM accepts dates in the format “mm/dd/yyyy hh:mm:ss” Be sure to check that you have your dates in this format

Incomplete Records: Every record must contain a date, longitude, and latitude.

Different Locations, but Same

Station Name: Take care not to name two different locations the same station name... This will result in only the first station's data to be imported.

Poor Planning: Take the time to understand the data structure by reading Appendix C. This will save you a lot of time in the long run!

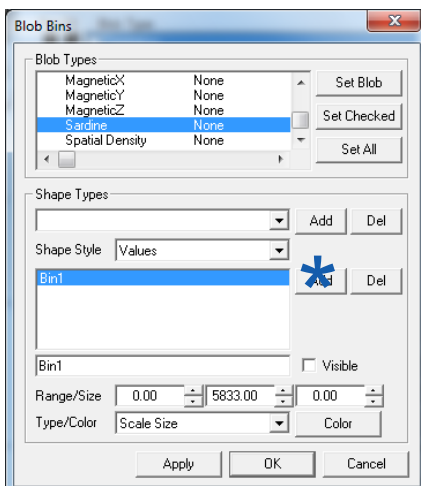
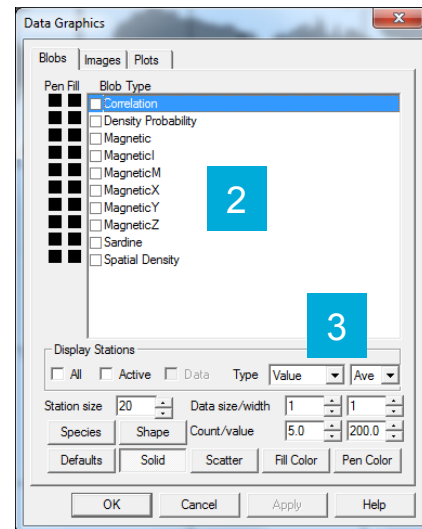


Displaying Data Blobs

Once the data has been imported into *PHAM*, it can be displayed as circles, filled in dots, or pies. The value placed on each station can be either a count, sum, average or presence/absence. As always the steps below will help guide you through the process, but be sure to consult the references if you lose your way.

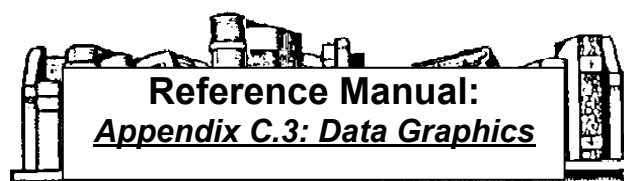
Step-By-Step

1. Within PHAM, select **View-Display Graphics** and then on the **Blobs** tab.
2. To **Select Data** to display: Click on the box next to the Measurement Type name in the **Blob Type** box,
3. Select the **Value** to display in the **Type** dropdown boxes
4. To change the **color** of the blobs. Click on the color box next to the measurement type and select the desired color.
5. For **station locations**, select the box next to 'All' (for all stations) or 'Active' for stations sampling in timestep (if running simulation).
6. For solid blobs click on the **Solid** button.
7. To change the size of the blobs, increase or decrease the number in the **Count** box



To Define Scaling of Blobs, Select the Shape box.

- Click on the Measurement Name in the top box
- Select a Shape Type from the drop down box and Choose Add denoted by (*) in the figure to the left. This adds a bin for the measurement type.
- Specify the Range value and Corresponding Size and Color for the bin
- Click the box next to visible to make the bin visible on the map



Spatial Analysis

The Spatial Analysis tool allows you to match up your data with imagery. Within this tool you can look at correlations between your data and the imagery and export the matched data to a csv file.

Step-By-Step

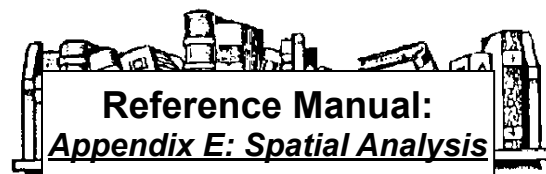
1. Select **View-Spatial Analysis Options**
2. Under the **Measure** tab, select one or more Category (typically your measurement types) and click 'Read'
3. Add Characteristics (typically imagery) to match to the categories by clicking 'Add' in the characteristic box.
5. Specify the bins of the Characteristics in the boxes next to min, max, and number of bins
6. Click Ok.

The screenshot shows the 'Measure' tab of the 'Spatial Analysis Options - Baseline' dialog. It includes sections for 'Measurement' (Category, Date Range, Geographic Extents), 'Characteristic' (Category, Frame, Conversion, Value Min, Max, Bins, Search, Days, Smooth), and 'Analysis and Display Controls' (Weight, Min Samples, Significance, Histogram Bins, Normalize). Buttons for 'Import', 'Export', 'Apply', 'Ok', and 'Cancel' are at the bottom.

This block contains two overlapping screenshots of the 'Spatial Analysis Options - Baseline' dialog. The top screenshot shows the 'Density' tab, and the bottom screenshot shows the 'Correlation' tab. Both tabs have sections for 'Physical Characteristics' and 'Analysis and Display Controls'.

For Density & Correlation Plots:

- The **Density** tab governs what variables appear in the **Sample Density Plot**. Once you've run the spatial analysis, you can choose which Characteristics you would like to plot
- The **Correlation** tab governs what variables appear in the **Characteristic Distribution/Correlation Plot**. You can choose to plot this as a false color image or with confidence intervals.

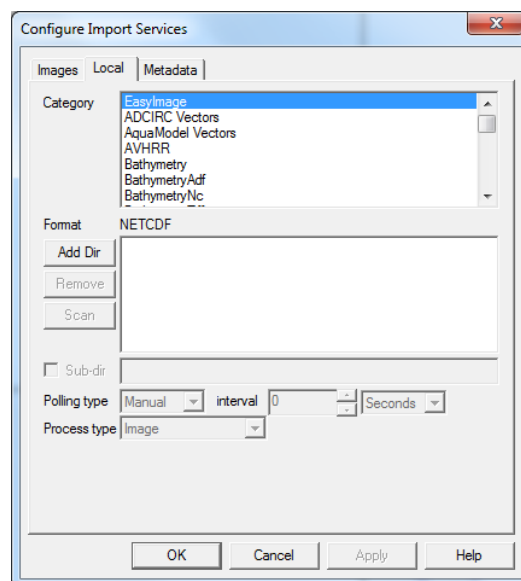


Importing Imagery

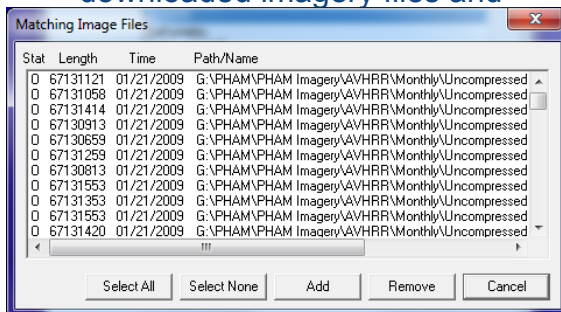
After your measurements have been loaded into your project, you'll want to get the environmental data that correspond to your dataset. Satellite imagery is available in more formats than there are sources. *PHAM* has the ability to read many of these imagery formats. Beginners should start with the imagery available on the [imagery page](http://phamlite.com/imagery.html). If you want to try your own imagery, be sure to read [Appendix D](#).

Step-By-Step

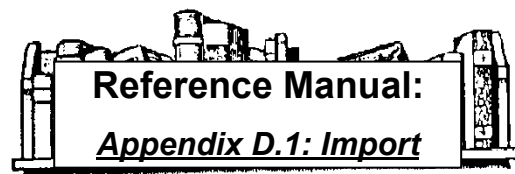
1. Browse to the [imagery page](http://phamlite.com/imagery.html) on the website
2. Download any desired Imagery to a local folder. Imagery must be uncompressed and placed in one folder on the computer ([D.1](#))
3. Back in PHAM, choose **File-Import-Imagery-Local**
4. Select the Category that corresponds to the downloaded imagery ([D.3](#)).
5. Click the **Add Dir** button
6. Browse to the location of the downloaded imagery files and



7. Click the **Scan** button
8. Highlight the imagery files to import.
9. Click **OK**



Imagery Page:
<http://phamlite.com/imagery.html>



Displaying Imagery

These steps will guide you through browsing through images and setting up a scale for your imagery set.

Step-By-Step

1. Within PHAM, select **Process-Browse Images**.
2. Select an imagery set and date from the Browse Images Toolbar
3. To change the scaling, select **View-Display Settings** then click on the **Categories** tab.
4. Select the imagery to be scaled then click the **Edit** button.
5. To change the scaling, use the formula in the **Function** box.

a. *Off* variable (offset) = number in the leftmost box directly below the function box.

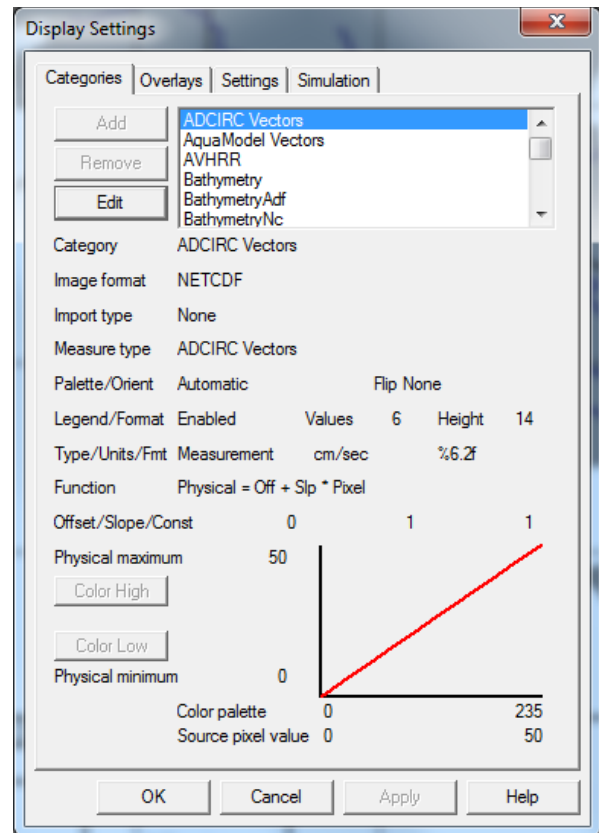
b. *Slp* variable (slope) = number in the second to the left box directly below

c. *Physical maximum and/or Physical minimum* = maximum and minimum values of the imagery parameter

d. *Pixel* value = the pixel count that corresponds to the desired maximum or minimum value.

e. Plug the values from a-c and solve for the max. and min. pixel values

f. Place the result for the min in the box denoted by (*) and the result for the max in the box denoted by (!)



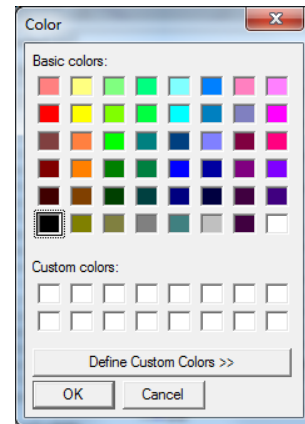
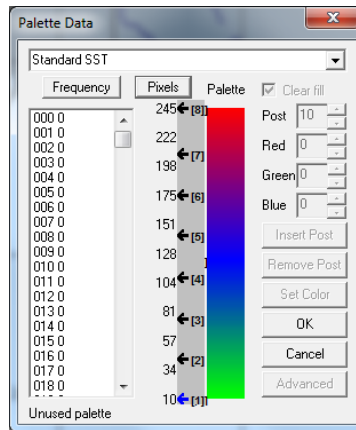
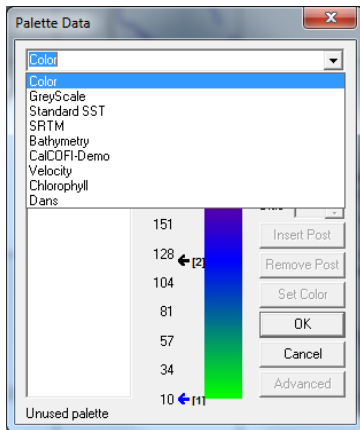
NEXT...

Displaying Imagery

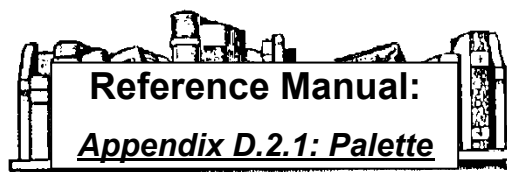
These steps will guide you through changing the palette for your imagery.

Step-By-Step

1. With an imagery set displayed on the screen, right click anywhere on the map and select *Palette*.
2. The top drop down box contains a list of pre-set palettes for the different imagery types. To try one of these simply click on the name of the palette and click *Ok*.
3. If none of the pre-set palettes work, use the advance options to create your own palette. Doing this ensures that the pre-set palettes remain unchanged.



4. Click on the black arrows, continue holding down while you move the arrow up or down along the scale.
5. To change the color of the post, simply double click on the arrow and select the new color box. Then click *Ok*.
6. The values on the side of the colorbar can be set to read either the pixel value or the physical value by clicking on the *Pixels* or “Units” button at the top of the color bar

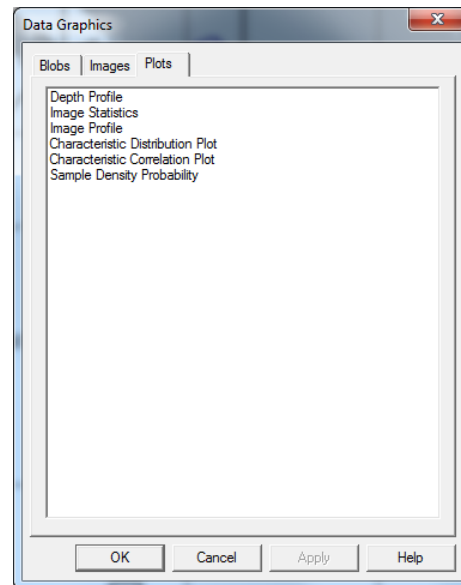


Creating Plots

With *PHAM*, you have the ability to create interactive plots of the data and imagery by following the simple steps below.

Step-By-Step

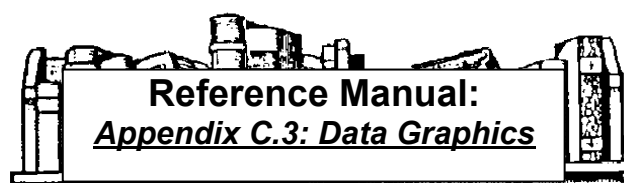
1. Within PHAM, select **View-Data Graphics** and then select the **Plots** tab.
2. Click on the names of the desired plots. Then click *Ok*.
3. Select data to include in the graphs by clicking, pressing shift, and then dragging to another location on the map.



Basics on the Plots Available:

- The plots will show the y-variable with respect to the distance from the first point to the second point on the drawn line.
- **Depth Profile** – *plots the depth of the data across your transect*
- **Image Statistics/Profile** – *plot results from spatial analysis of selected imagery*
- **Characteristic Distribution/Correlation-** *plot results from spatial analysis of data*
- **Sample Density Probability-** *plots results of spatial analysis density predictions.*

Refer to the **Spatial Analysis** section for more information on these plots...

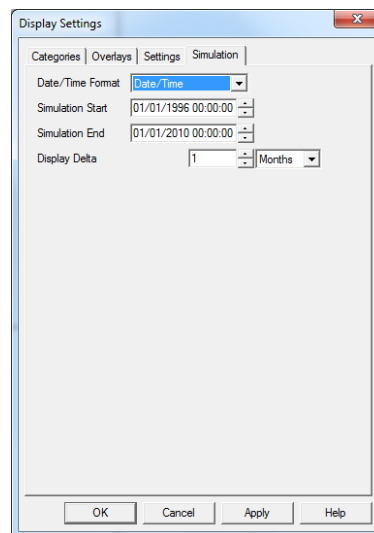
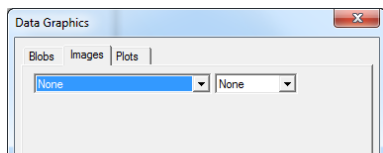


Running Simulations

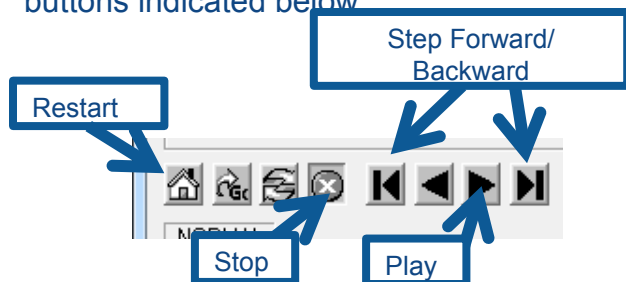
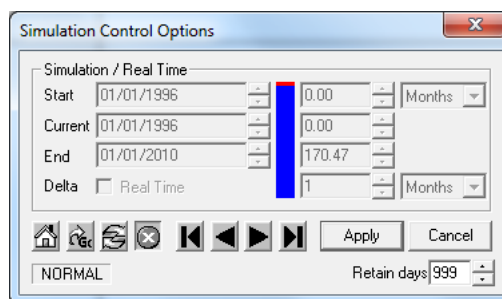
Simulations are videos of the data and/or an imagery set through time.

Step-By-Step

1. Select **View-Display Settings**.
2. Click on the **Simulation** Tab
3. Type in the start date in **Simulation Start** and the end date in **Simulation End**
4. Type in the Number and Units of the time step in **Display Delta**. Then click Ok.
5. If you would like to display an imagery set, select **View-Data Graphics**. Click on the **Images** tab.



6. Then select the desired imagery set from the first drop down box. Then click **Ok**.
7. Select **Process-Simulation Controls**.
8. Set the **Retain days** to the number of days the program should look forward or backward for satellite imagery.
9. To control the simulation click the buttons indicated below



Status Window:

*To Show the Date and Time of each step in the simulation go to **View-Status Window**



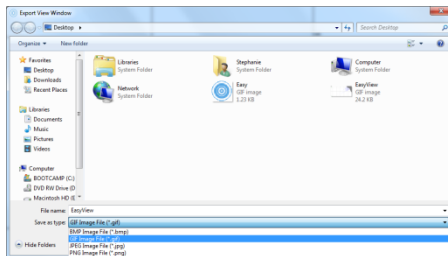
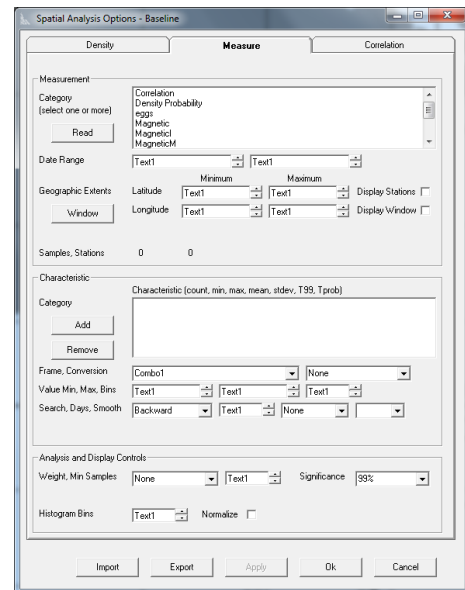
Exporting Data & Maps

One of the greatest things about PHAM is its compatibility with the programs most scientists already use. All data and maps generated in PHAM can be exported in a variety of formats simply by following these steps.

Step-By-Step

For Data:

1. Select **View-Spatial Analysis Options**.
2. If spatial analysis has already been run, then click **Export**.
3. Select the variables to export
4. Click OK.



For Maps:

1. Select **File-Export-View**
2. Choose **File Type** in the **Save as Type** and Click **Save**.

